

5 Claims

Claim 1. A system for modeling a bi-directional signal of an electric circuit, comprising:

10 means for maintaining a state of an input component of the bi-directional signal;

means for maintaining a state of an output component of the bi-directional signal; and

15 means for generating a resolved state based upon at least the input component state and output component state.

Claim 2. The system of Claim 1 wherein the resolved state is  
20 further based upon resistive data.

Claim 3. The system of Claim 1 wherein the input component state, output component state and resolved state are output to a computer file.

25 Claim 4. An improved pad cell model, comprising:

an input node which reflects data that is supplied to the pad cell from external sources;

30 an output node which reflects data that is supplied as output from the pad cell; and

a resolved node which reflects the combination of the  
35 input node and output node.

Claim 5. The pad cell model of Claim 4 wherein the resolved node also reflects the combination of resistive data.

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5 Claim 6. The pad cell model of Claim 4 further comprising  
means for selectively connecting the input node to the  
resolved node.

Claim 7. An improved pad cell model, comprising:

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an I/O pad;

an output driver;

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a buffer coupled between the I/O pad and the output  
driver; and

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an input receiver having an input and output, said input  
receiver comprising means for coupling the input (i) directly  
to the output, or (ii) to the output through a buffer.

Claim 8. A method for modeling a bi-directional signal of an  
electric circuit, comprising the steps of:

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maintaining a state of an input component of the bi-  
directional signal;

maintaining a state of an output component of the bi-  
directional signal; and

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generating a resolved state based upon at least the input  
component state and output component state.

35 Claim 9. The method of Claim 8 wherein the resolved state is  
further based upon resistive data.

Claim 10. The method of Claim 8 further comprising the steps  
of:

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- 5 specifying at least one bi-directional signal of a logic design to be simulated; and

simulating the logic design.

- 10 Claim 11. The method of Claim 8 further comprising the step of selecting whether to couple the input (i) directly to the output, or (ii) to the output through a buffer.

- Claim 12. A method for operating the pad cell model of Claim  
15 4 in accordance with the method of Claim 8.

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